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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/531,083

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Takashi Kunimori

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EXAMINER

NADKARNI, SARVESH J

ART UNIT

PAPER NUMBER

2629

MAIL DATE

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/531,083	<b>Applicant(s)</b> KUNIMORI ET AL.	
	<b>Examiner</b> SARVESH J. NADKARNI	<b>Art Unit</b> 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/21/2007</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

**This Office Action is in response to the Amendment filed January 18, 2007, in relation to Application Number: 10/531,083 (hereinafter referred to as "amendment").**

**Claims 2, 4, 6 and 7 have been cancelled. Claims 1 and 3 have been amended. No claims are newly added. Therefore, claims 1, 3 and 5 are currently pending.**

**NOTE: This application has been transferred to Examiner Sarvesh J. Nadkarni; although Applicant may notice formatting and stylistic changes from the First Office Action, all substantive matters have been addressed in accordance with guidelines as established by the MPEP, and further, in accordance with Applicant's amendment.**

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. US Patent 6,304,254 (hereafter referenced as Johnson), in view of Matsumoto et al., US Patent 5,606,632 (hereafter referenced as Matsumoto), further in view of Moghimi "Curing comparator Instability with Hysteresis".

3. Regarding claim 1, Johnson discloses in column 5 lines 64-67 & column 6 lines 1-3 the invention relates to an LC display device based on "in plane switching", in which the switching

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speed is increased by overdriving the pixels upon a change of the voltage across these pixels while taking, for example the hydrodynamical properties of the LC material into account. The correction means may also be used to correct for changes of ambient or liquid temperature. This system is illustrated in Figures 1-9.

4. This reads on "liquid crystal panel drive device that achieves overdriving by using a frame memory and a lookup table," Figure 7 element 32 field delay reads on frame memory, and element 41 is a lookup table, New Data in reads on "input data", and Old Data in reads on "previous-frame data": This system is illustrated in Figures 1-9. As for "wherein a plurality of lookup tables are provided so as to correspond to different temperatures, and the lookup tables are switched from one to another so that one of the lookup tables is selectively used according to information indicating an ambient temperature, and wherein the lookup tables are switched from one to another". Matsumoto teaches a system containing many lookup tables, it would have been obvious to one of ordinary skill in the art at the time of invention to modify Johnson by Matsumoto to include the use multiple lookup tables for the purpose of accuracy and speed. This is a common programming practice and is referred to as a 2 or 3 dimensional table (2 or 3 dimensional lookup table, sometimes referenced as a "table").

5. As for, "with hysteresis secured in between." Moghimi discloses in a published article in Analog Dialogue 34-7(2000) paragraphs 6-7, that hysteresis can be an effective solution to Clean up noisy signals. It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Johnson and Matsumoto by Moghimi to include the use hysteresis for the purpose of signal conditioning and processing.

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6. Furthermore, Johnson does not disclose, "wherein a first storage device in which the plurality of lookup tables are stored and a second storage device, having a smaller storage capacity than the first storage device, for storing a lookup table read out from the first storage device are provided, and a predetermined number, corresponding to the ambient temperature, of lookup tables are read out from the first storage device and stored in the second lookup table."

7. In the related art of display systems Matsumoto discloses in column 1 lines 65- 67 & column 2 lines 1-16 that multiple lookup tables can be used to calculated and store values, translation between the table entries reads on storing values and lookup tables are interpreted as storage devices. This reads on, "wherein a first storage device in which the plurality of lookup tables are stored and a second storage device, having a smaller storage capacity than the first storage device, for storing a lookup table read out from the first storage device are provided, and a predetermined number, corresponding to the ambient temperature, of lookup tables are read out from the first storage device and stored in the second lookup table." It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Johnson, Matsumoto, and Moghimi with the teaching of Matsumoto to include the use of storing data in multiple lookup tables, for the purpose of speed, calculations and table size limitations.

8. Regarding claim 3, Johnson does not disclose, the use of multiple lookup tables, "wherein, based on a first lookup table corresponding to a first temperature and a second lookup table corresponding to a second temperature immediately above or below the first temperature, an interpolated amount of overdrive corresponding to a temperature between the first and second temperatures is calculated."

9. In the related art of display systems Matsumoto discloses in column 1 lines 65-67 & column 2 lines 1-16 that multiple lookup tables can be used to calculate and store values, translation between the table entries reads on storing values and lookup tables are interpreted as storage devices. This reads on, "wherein, based on a first lookup table corresponding to a first temperature and a second lookup table corresponding to a second temperature immediately above or below the first temperature, an interpolated amount of overdrive corresponding to a temperature between the first and second temperatures is calculated." It would have been obvious to one of ordinary skill in the art at the time of invention to combine Johnson by Matsumoto to use multiple lookup tables in combination with a temperature input for the purpose of interpolation calculations resulting in increased switching speed as the correction/calculation means compensates for ambient or liquid temperature.

10. Regarding claim 5, Johnson does not disclose, "wherein, when lookup tables are read out from the first storage device and stored in the second storage device, corrections are made according to temperature information."

11. In the related art of display systems Matsumoto discloses in column 1 lines 65-67 & column 2 lines 1:16 that multiple lookup tables can be used to calculate and store values, translation between the table entries reads on storing values and lookup tables are interpreted as storage devices. This reads on, "wherein, when lookup tables are read out from the first storage device and stored in the second storage device, corrections are made according to temperature information." It would have been obvious to one of ordinary skill in the art at the time of invention to modify the combination of Johnson, Matsumoto, and Moghimi with the teaching of

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Matsumoto, to use multiple lookup tables in combination switched selectively with a temperature input for the purpose of corrections made in regard to temperature resulting in increased switching speed as the correction/calculation means compensates for ambient or liquid temperature.

### ***Response to Arguments***

12. Applicant's arguments filed January 18, 2008 have been fully considered but they are not persuasive. Applicant argues that Matsumoto's "mere disclosure of a plurality of look-up tables 61a through 61d does not suffice to disclose the recited *application* of a plurality of lookup tables" (see Applicant's Remarks page 4, third full paragraph continued and further described through page 5). Examiner respectfully disagrees. The application of the Matsumoto lookup tables would have been obvious to one of ordinary skill in the art in view of the Johnson and Moghimi references. Furthermore, it would be obvious to one of ordinary skill to properly identify information storage devices using ordinals such as "first" and "second" in order to adequately reference and apply said devices appropriately. Furthermore, as stated above and properly identified by the previous Examiner, it would be obvious to one of ordinary skill to use storage devices of varying capacities in order to achieve the commonly understood benefits of improved speed of retrieval and calculation and improve the overall efficiency of the device.

### ***Conclusion***

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SARVESH J. NADKARNI whose telephone number is (571)270-1541. The examiner can normally be reached on 11AM-7PM EST Monday - Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-272-7674. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Sarvesh J. Nadkarni  
Examiner – Art Unit 2629

/Amare Mengistu/  
Supervisory Patent Examiner, Art Unit 2629